

**Alternative
EVM
Applications
Not a
One-Size-
Fits-All**

A mini-tutorial exercise to clarify the two MANAGEMENT APPLICATION levels of EV Management.

- EVMS Industry Standard EIA-748, or
- CSSR (Management)

LEARNING OBJECTIVES

2: THE GOVERNMENT PM's ACQUISITION STRATEGY AND EVM APPLICATION DECISION.

Within the context of a Program Manager's acquisition strategy, describe the alternative applications of EVM in terms of project risks.

2.1: ALTERNATIVE EVM APPLICATIONS - A GOVERNMENT PM DECISION. Given a PM acquisition strategy, identify alternative EVM applications, in terms of risk.

2.2: EVM IN THE CONTRACTING PROCESS. Given a decision to require the contractor to use EVM principles, identify the appropriate inputs to the Request for Proposal (RFP).

Exercise #7 Alternative EVM Applications

Step

Action

1. Answer questions

Criteria for Successful Completion

1. Are the alternatives described consistent with tutorial?
2. Does the comparison relate levels of risks to alternatives?

CONTRACT TYPES - Review of ACO-101

FFP - Firm Fixed Price (Low Risk)

This contract type indicates the contractor takes on all cost risk. Earned Value Management is therefore not required on FFP type contracts. It stands to reason that if work contains cost, schedule, or technical risks, the FFP contractual vehicle is inappropriate.

FPIF - Fixed Price Incentive Firm (Target) (High Risk)

This contract type indicates the government shares the risk with the contractor. The share ratio is indicated in contractual terms, with the government risk shown first, such as 75/25. This means the government will share in underruns or overruns. When the costs reach the point of total assumption, then the ratio is 0/100 (in other words it reverts to contractor taking on all costs from this point.)

CP - Cost Plus Incentive or Cost Plus Award (Highest Risk)

This contract type indicates the government shares the risk to the extent that the government will pay all costs incurred. The contractor fee or profit will depend on how close the actual costs come in to the negotiated target cost.

Earned Value Management is Not a One-Size-Fits-All Management Tool

- **Projects vary in terms of risk, criticality, complexity, cost.**
- **EV concepts apply to projects at any level of risk.**
- **EV would not apply to projects less than 12 months long.**
- **PM's will select the level of EVM application based on a risk management strategy.**
- **This tutorial will help you know how to select the appropriate EVM (management) application, depending on risk and value.**

Alternative Applications of EVM

Select One

- **EV Management System Industry Standard EIA-748**

or,

- **Cost/Schedule Status Report (management level - NOT the report)**

Speaks to the requirement to apply EV management principles. Reports are a separate subject.



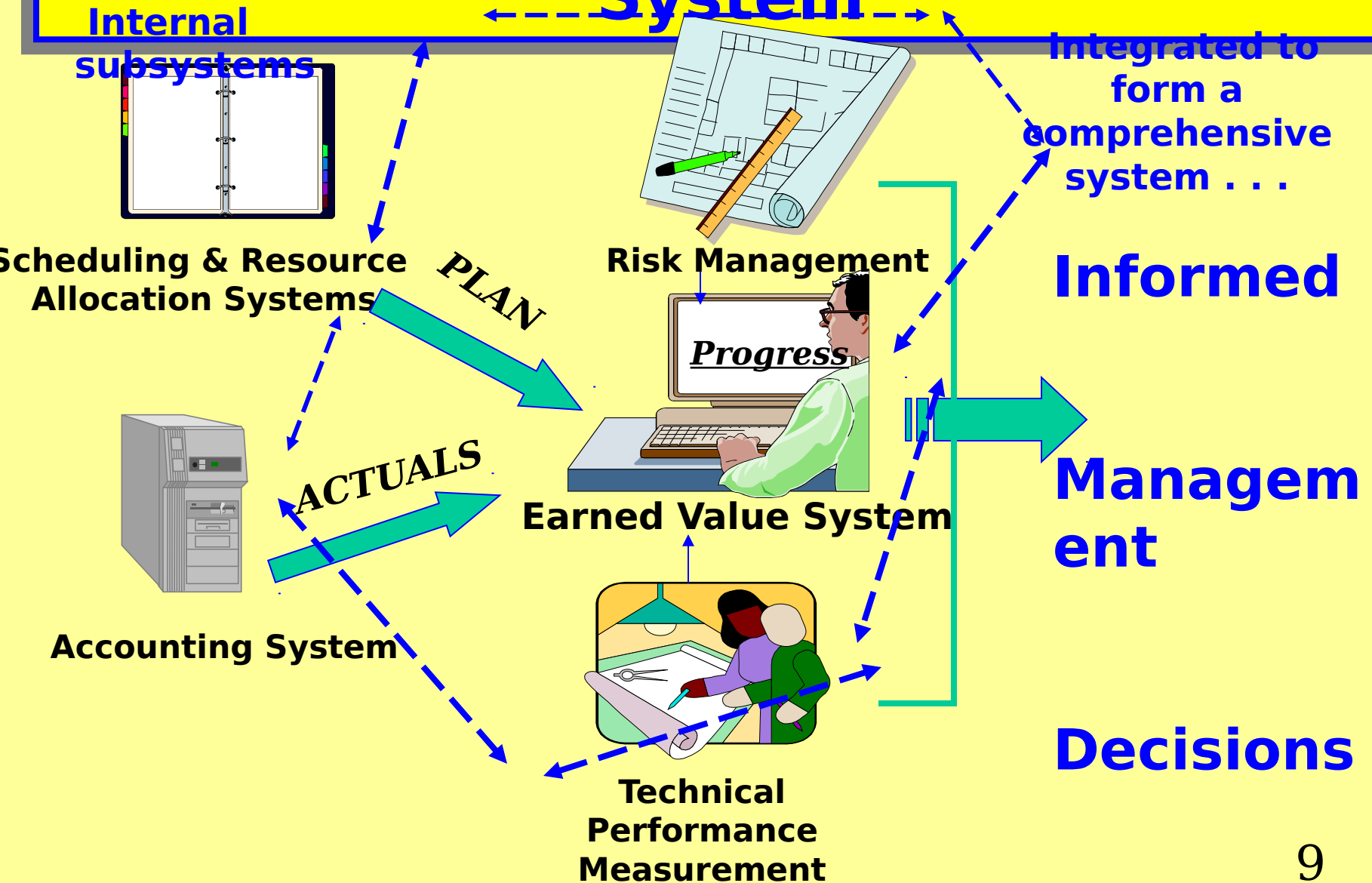
**Work Package Level (EVMS) or
Control Account Level (CSSR)**

First, what is meant by 'management system?'

An effective management system integrates all internal sub-systems.

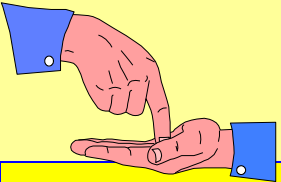
A non-integrated system creates sub-systems to meet specific needs.

An Earned Value Management System



Compare EVM Applications

Significant Contracts



Non-FFP
\$73M R&D
\$315M

Production

EVM Industry

Standard EIA-748

(Criteria)

Higher Risk, More Rigorous
Control

Management Systems

Govt Certifies KR's

System

- "Objective" performance
measures - Process controls

at

Cost Performance Report
(CPR)

Non-FFP

\$6.3M R&D

12 Months

Duration



Non-Significant Contract

CSSR

Some Risk,
Accept Less Rigor

KR Expected to Use
Basic Management

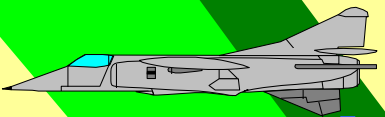
No Govt Approval

"Reasonably
Objective"

Cost Performance Report or
CSSR

The EVMS EIA-748 Standard application requires a greater level of detail. The integration of scope, schedule, and budget occurs at the work package level. This integration at the detailed level enables more objective measures of performance. The CSSR application enables “reasonably” objective measures of performance. The integration of scope, schedule, and budget occurs at the Control Account level. This higher level of detail leads to less objective measures.

The next two slides depict these distinctions.

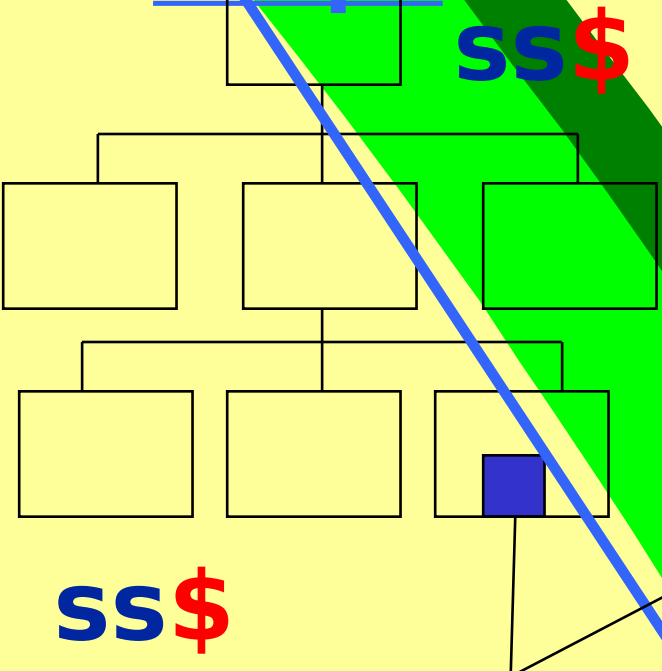


CONTRACT -
SS\$

EVMS EIA-748
Industry Standard

Work
WBS
Scope

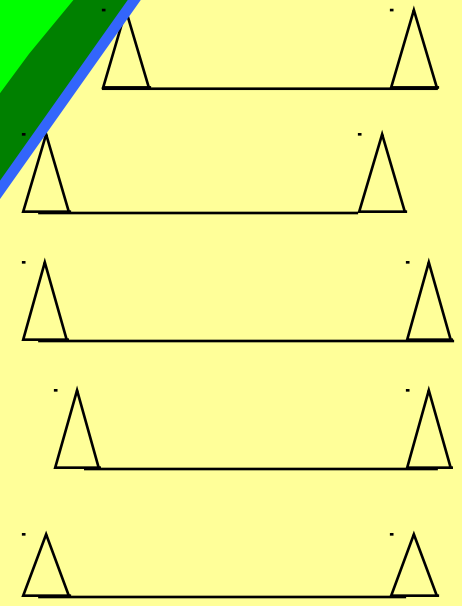
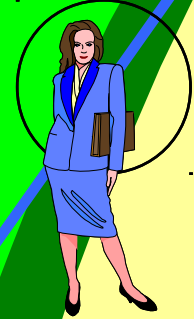
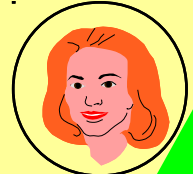
Schedule



SS\$

SS\$

OBS



Control
Account

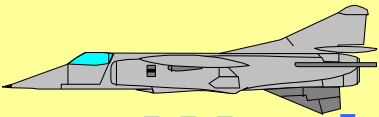
Objective Metrics

SS\$

Labor, Material, or

Work Package

ODC



Work
Scope

WBS

SS\$

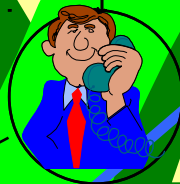
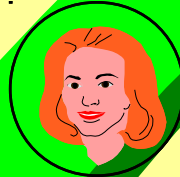
SS\$

CONTRACT -
SS\$

CSSR

Schedule

OBS



Control
Account

“Objectively” Objective
Metrics

SS\$

Labor, Material, or

ODC

Work Package

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Notes: When we speak of EVM applications, the focus is on the level of management detail and objectivity we want. As you see in the charts, the larger dollar value, highly critical contracts require the EVM Systems Industry Standard EIA-748 be applied to the contractors' MANAGEMENT systems.

The alternative to the EVMS Standard is referred to as C/SSR, Cost Schedule Status Report. Don't be misled because the term used is 'report.' We are still referring to management processes. Make sure that distinction is made in any discussions of EVM application. PMs must first make the decision as to which management level is required.

Then, and only then, decide which report to obtain. My recommendation? Select one or more of the 5 formats of the GPR. The CSSR has only 2 formats. I suggest the CSSR report be eliminated as extraneous. When communicating to your contractor or provider, be mindful of the differences in terms of management processes. Using the terms EVMS or CSSR is not sufficient to ensure the communication process is working. The only things you should be willing to give up between the two options are:

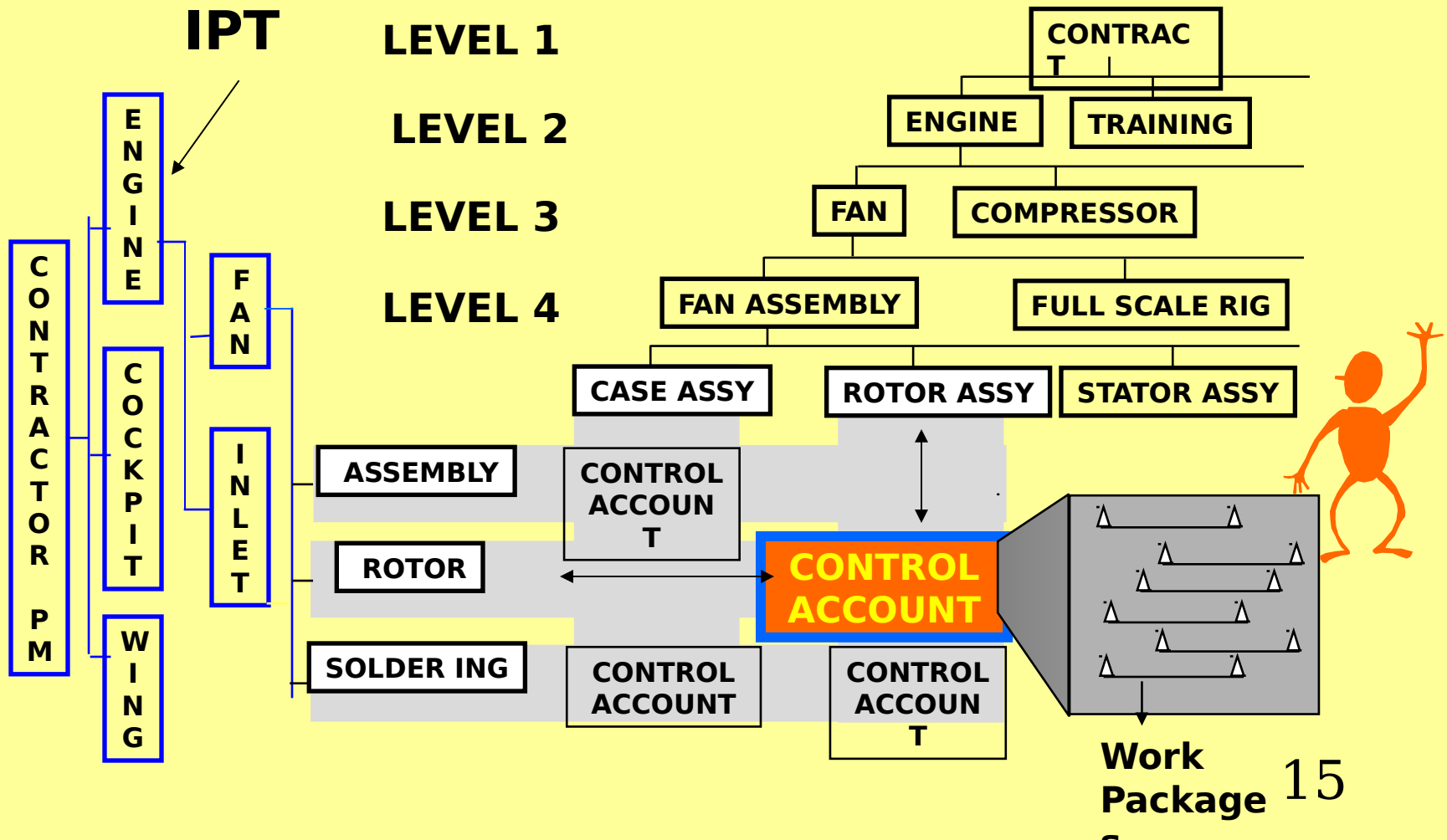
1. The level of detail at which the EV methods are applied and is traceable by the Government: Control Account or Work Package.
2. The objectivity of the EV methods applied - whether at CA or WP.- Contractors will invariably propose using a 50-50 EV method on all WP's, regardless of value, when applying the CSSR level of management. This may be adequate, given the lower risks

An Integrated Management System - Where are the Key Management Control Points?

Control Account Managers?

WORK BREAKDOWN STRUCTURE

ORGANIZATIONAL STRUCTURE



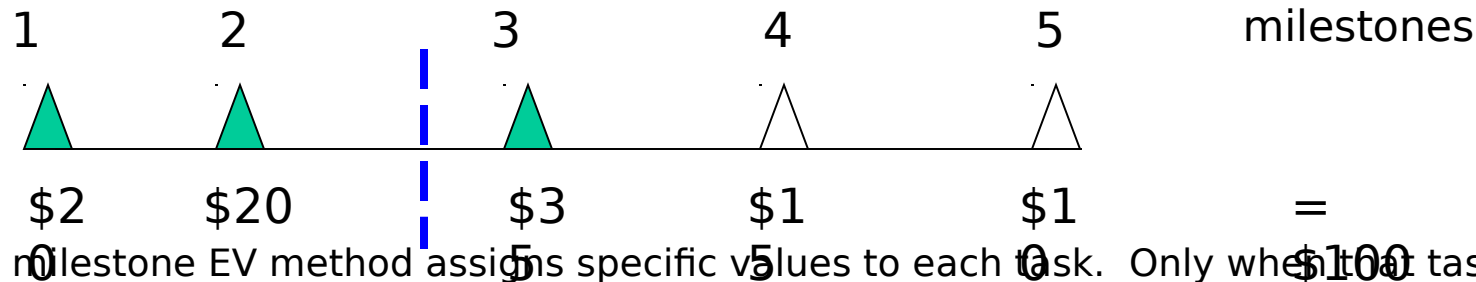
Points to Ponder

Contractors will determine the placement and number of Control Accounts, based on the type of work and their organization structure.

Contractors should establish a sufficient number of Control Accounts to assure good planning and control, but not so many the system becomes overly cumbersome and costly to operate.

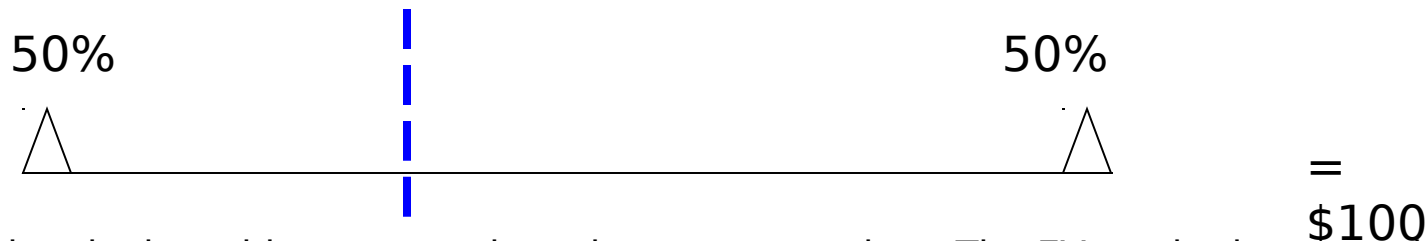
EV Methods should be appropriate to the category of work, and use objective measures that represent physical work completion to determine status.

EV Methods Comparison. This is a work package valued at 100% or \$100. Compare the two EV methods - milestone or 50-50 (a variation of milestone).



The milestone EV method assigns specific values to each task. Only when a task is completed, is credit taken for BCWP or work completed. Filled in triangles represent work is complete. Time now is the blue vertical dotted line. Determine the following:

BCWS cum to date: \$ _____ **BCWP cum to date:** \$ _____



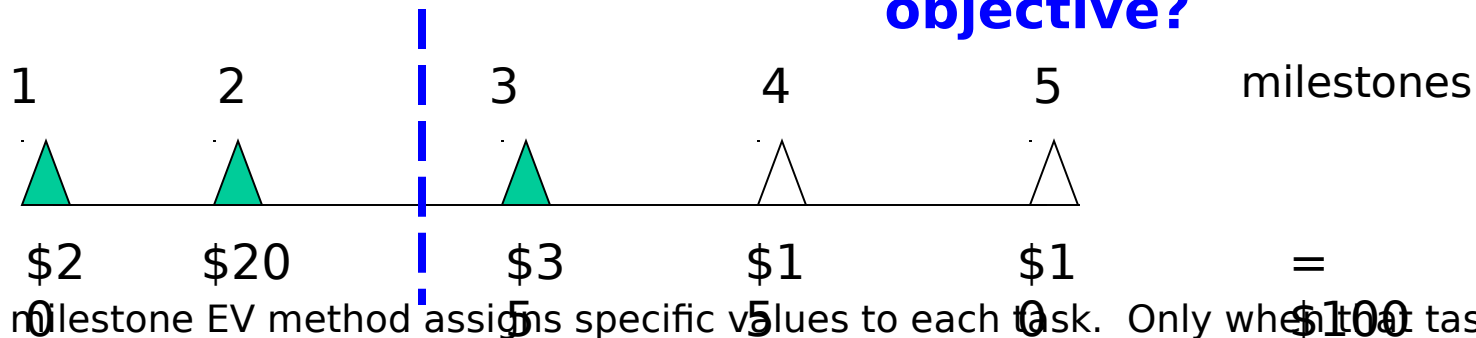
Now lets look at this same work package, same value. The EV method we use this time is called the 50-50 method.

BCWS cum to date: \$ _____ **BCWP cum to date:** \$ _____

Fill in the blanks. See the next chart to check your answers.

EV Methods Comparison. This is a work package valued at 100%, or \$100.

Which EV method is more objective?



The milestone EV method assigns specific values to each task. Only when a task is completed is credit taken for BCWP. Filled-in triangles represent completed work. Time now is the blue vertical dotted line. Determine the following:

BCWS cum to date: **\$40**

BCWP cum to date: **\$75**



Now let's look at this same work package, same value. The EV method we use this time is called the 50-50 method. No consideration is given as to how much work is actually completed. Instead, simply, the work package is opened, and immediately, 50% of the WP value is "earned."

BCWS cum to date: **\$50**

BCWP cum to date: **\$50**

Answer these 4 Questions (See Slide 11)

1. The EV Management application for critical, high technical risk work, with an estimated contract value of \$90M over 3 years, is the:

1. CSSR management application
2. EVMS Industry Standard
3. RFP competitive bid
4. LOE work measurement

2. The risks associated with contracts requiring EVMS Industry Standards require the Government to _____ the contractors' management systems, while the risks associated with the CSSR management application requires the Government to _____ the contractors' management systems.

1. review, certify
2. certify, understand
3. understand, accept
4. monitor, certify

Answers

1. The EV Management application for critical, high technical risk work, with an estimated contract value of \$90M over 3 years, is the:

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2. The risks associated with contracts requiring EVMS Industry Standards require the Government to _____ the contractors' management systems, while the risks associated with the CSSR management application requires the Government to _____ the contractors' management systems.

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JUST FOR PRACTICE

3. In your own words, describe the two alternative EV management applications.

4. In your own words, compare the alternatives in terms of risk.